GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

JANUARY 11, 1960, VOLUME 38, NUMBER 13 . . . *To Know This World, Its Life*

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH BAYLOR ROBERTS

Census taker covers the Hong Kong water front, where thousands live on fishing junks

1960 - IT'S CENSUS TIME AGAIN

also—

► A Growing Nation in a Growing World
► My Two Months as an Argentine
► Aswan Dam Threatens Egyptian Relics 145

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On the troubles the census takers will have, Albert W. Atwood and Lonnelle Aikman report in the November, 1959, *National Geographic*:

"If experiences repeat, some will trip on rickety stairs, climb steeples, blow out tires, break axles and become seasick. Some will be bitten by dogs or chased by turkeys. Others will meet bears or fall into creeks.

"In 1950 one woman had to cross a stream by log to reach a group of mountain cabins. She made the trip twice and fell in both times."

Most Americans cooperate gladly with the counters—some even going far out of their way to help. Others, however, annoyed at the government, or afraid their personal lives might be open to snooping neighbors, refuse to talk. Usually the census taker can convince them to answer—but if he cannot, others can. The silent ones run the risk of fines or jail.

But the law protects your privacy. When the great mass of information is boiled down to final form, no one can tell who's who. Further, all information is strictly confidential. No one except the individual himself will be given

IN 1948 the Wheaton, Maryland, triangle had few houses (left). Today it is the shopping center (below) for myriad suburbs 12 miles out of Washington, D.C.

PHOTOGRAMMETRY, INC.

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NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES

CENSUS MEASURES THE NATION

DO YOU THINK you don't count? If so, you're wrong. This April 1 you'll find out that you do. Someone is very much interested in you—how old you are, how many brothers and sisters you have, how much money your family makes and how it makes it, and what sort of house you live in.

That interested someone is the census taker. Next April, one will visit every house in the country, counting Americans one by one.

The huge job is required by the Constitution of the United States. In every year that ends in a zero, the counters—this year 160,000 of them—fan out through the country, including the new States of Alaska and Hawaii, the Commonwealth of Puerto Rico, the Panama Canal Zone, the Virgin Islands, Guam, and American Samoa. Ship captains count their crews, military agencies forward questionnaires to men assigned abroad.

The census taker will knock at split-level ramblers, mansions, house trailers, farms, thatched huts, igloos, convents, jails, isolated lighthouses, and lumber camps. The White House will receive a call like any other home.

Satisfying the nation's curiosity about itself is not an easy chore. The Census Bureau this year expects to count 180,000,000 Americans. Simply finding them all is a monstrous task. Then, consolidating the information and making it fit together to reveal a true picture is impossible—for mere men. They must call in a squad of burly computing machines.

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The counters' tally sheets are microfilmed, and the film fed into Fosdic, which scans two sheets per second, and translates the counters' marks into pulses on magnetic tape. In this form, Univac gobbles up the information at its fastest rate. (One waggish engineer wants to eliminate the film step, so he can call his machine "Filmless Fosdic.")

Univac can also spew out information faster than its masters could accept it—so a high-speed printer completes the electronic trio that digests the census. It can type out statistics, ready for publication, at 600 lines a minute.

Counting every man, woman, and child in the United States is an awful lot of work—and expensive. Why do we take the trouble?

Provision for the census was written into the Constitution because of our representative form of government. Each State is entitled to members of Congress in proportion to the number of people it has. There had to be a way to find out exactly.

The first census report, of 1790, attempted to do little more than tick off the number of free men and women, and slaves, in the States. About 4,000,000 persons were dealt with in a 56-page booklet. (This year's census information will run to about 100,000 pages in more than 100 bound volumes—a stack 10 feet high.)

Nowadays, the census discovers much more about a fast growing country than just its population. Some 60 questions to be asked cover two basic areas—housing conditions and personal and family characteristics.

Census officials themselves are sometimes surprised at all the uses their information is put to. Factories, schools, supermarkets, and hospitals are built because of what the census reveals about concentrations of people and their needs and wants.

Employment figures, housing, and health reports guide legislation. Federal aid to States and State assistance to cities are based largely on population. National trade policies are shaped by export-import figures from the census. Military and industrial mobilization for war depend on knowing about available people and skills.

For an outline of United States population history, as revealed in the 17 censuses held so far, turn the page. F.S.

NATIONAL GEOGRAPHIC PHOTOGRAPHER THOMAS NEBBIA

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PHOTOGRAPHS BY NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES

MAPPING the campaign: preparing for the census is as complex as planning a military drive. Officials set strategy, field officers carry it out. Territories must be assigned, "soldiers" recruited, and supplies delivered in time. At left, a census worker studies maps on which every home on every street in every city and town is marked. Below, a close-up of the map of a typical suburban area.

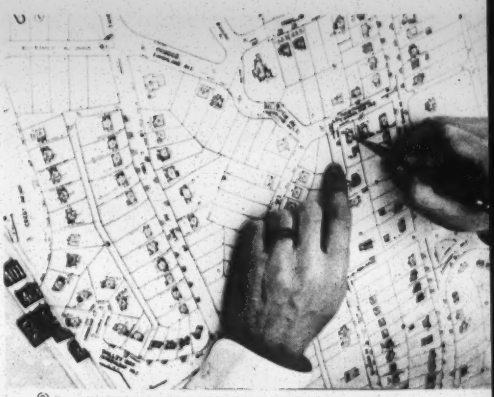
access to his personal record. Even the FBI and the income tax collector are banned.

When the counters fill out their sheets, they are mailed in a blizzard of paper to be tallied. If clerks were to try to tabulate the returns they couldn't complete the job before 1970—when it will be time to start over.

The Census Bureau has led the way in the development of machines to handle such vast amounts of information (GSB November 16, 1959). After the census of 1880 (when there were only 50 million Americans) it took the bureau seven years to sort out its information and report. By that time, the figures were stale—and the 1890 count loomed.

Fearing that the census would choke on its own paper work, two employees invented tools that not only revolutionized their work, but laid the foundation for the modern business-machine industry. They developed punch-card systems that automatically sorted and computed facts according to the pattern of holes punched into the cards.

Improved and modified over the years, these techniques gave the census new speed and flexibility. They served through the 1950 count, and are still used on some projects. Today's problems, however, are too much for them.

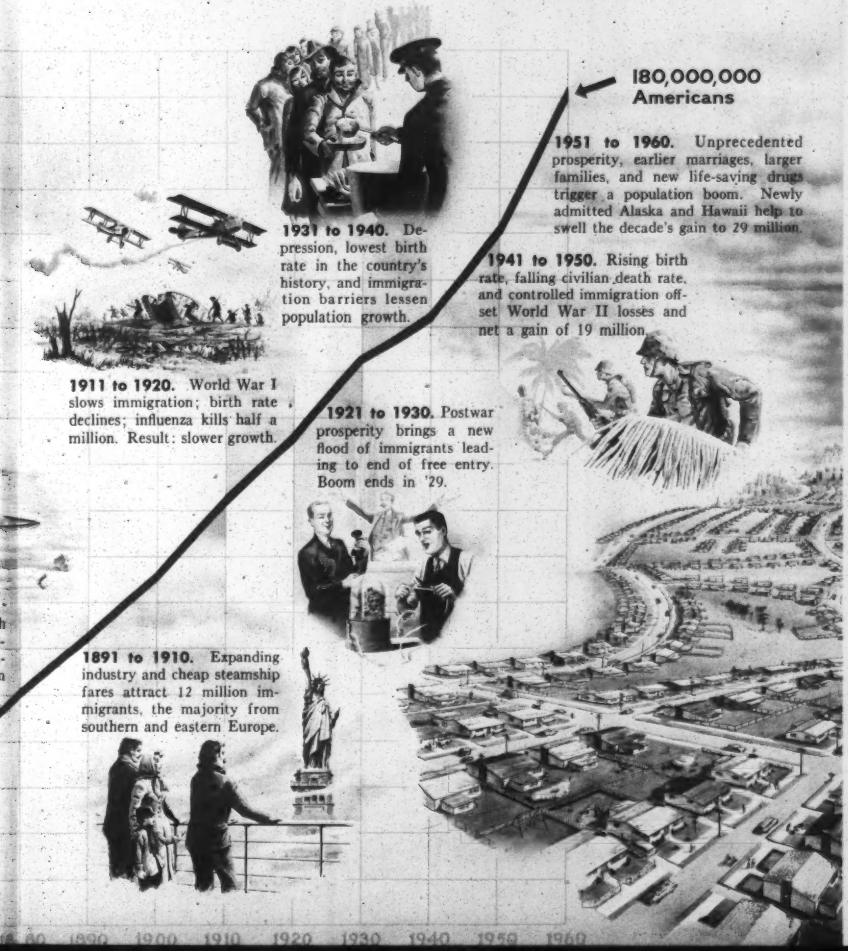


© MAPS BY PERMISSION SANBORN MAP COMPANY, PELHAM, N.Y.

This year, again a pioneer, census will rely on the fastest electronic devices. In 1950, it made trial runs on the world's first Univac (universal automatic computer), built to census specifications. This vast assemblage of wires, tubes, lights, magnets, and tape can add, subtract, multiply, and divide up to 5,000 times per second.

But Univac worked faster than its human masters could feed it information.

So census, together with experts at the National Bureau of Standards, developed Fosdic (film optical sensing device for input to computers). The name honors a comic strip character; the initials were worked out later.


180,000,000 Americans
1951 to 1960. Unprecedented prosperity, earlier marriages, larger families, and new life-saving drugs trigger a population boom. Newly admitted Alaska and Hawaii help to swell the decade's gain to 29 million.
1941 to 1950. Rising birth rate, falling civilian death rate, and controlled immigration offset World War II losses and net a gain of 19 million.
1931 to 1940. Depression, lowest birth rate in the country's history, and immigration barriers lessen population growth.
1921 to 1930. Postwar prosperity brings a new flood of immigrants leading to end of free entry. Boom ends in '29.
1911 to 1920. World War I slows immigration; birth rate declines; influenza kills half a million. Result: slower growth.
1891 to 1910. Expanding industry and cheap steamship fares attract 12 million immigrants, the majority from southern and eastern Europe.
1890 1900 1910 1920 1930 1940 1950 1960

DRAWING BY ROBERT W. NICHOLSON

More of Everyone Else, Too

WILL THERE SOMEDAY be only standing room on earth?

The United Nations predicts that in 600 years so many people will live here that each will be able to find only 1.2 square yards to live on—if the population continues to multiply as it has.

Men have lived on earth more than 1,000,000 years. But the human population reached half a billion only in the 16th or 17th century A.D. In Christ's time, perhaps only 250,000,000 inhabited the earth—the population today of North America alone. It was not until about 1930 that man numbered 2,000,000,000.

It now seems inevitable that the 4,000,000,000 mark will be reached in a scant 30 years. The population of India increases by some 6,000,000 every year. Every month the population of mainland China shoots up more than 1,000,000. Latin America's people may nearly quadruple during the second half of this century.

This explosion is due to a fantastic decline in death rates. Modern nutrition and medical science, with its vaccines, insecticides, and wonder drugs, fight disease, disability, and early death around the world. At one time only half the babies born lived to become adults. Today, a baby has a better than 90 per cent chance to survive and become a parent himself.

Pessimists believe we are multiplying ourselves into universal poverty. Optimists say that production and invention can keep pace with need. We will develop new sources of power to replace coal and oil, new raw materials for industry, and new techniques to provide more food.

But a grim joke goes around: "Soon science will have fixed it so a man can make food from whatever he can bend over and pick up—but he won't have room to bend over." L.B.

More Americans Than Ever

THE UNITED STATES is bustin' out all over.

Its population has multiplied 46 times since the first head-count in 1790 recorded 3,929,214 Americans—less than half the people who live in New York City today.

Where did they all come from? The chart gives a capsule description.

On the eve of modern times, the European world expanded to the Caribbean and seacoast of America. The New World clung to the Atlantic, but not for long.

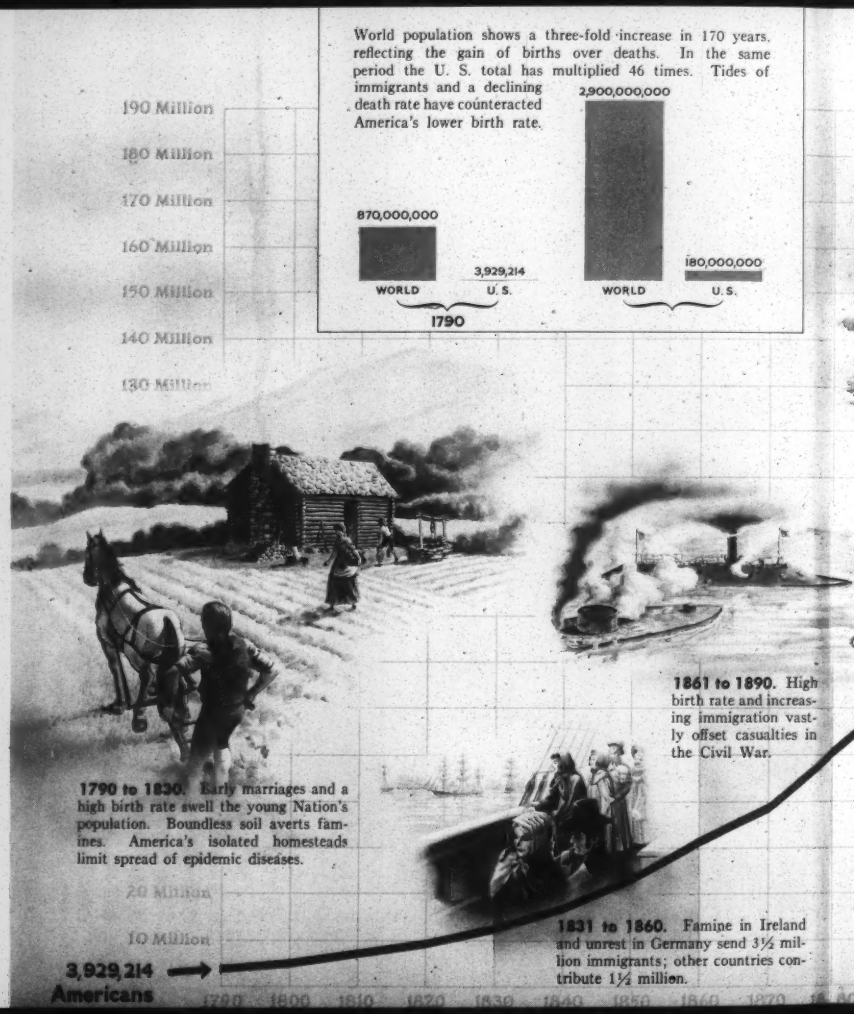
The early farmer pushed west from the Massachusetts Bay area to greener pastures and blacker soil in the Connecticut River Valley. His children went west to Ohio. Their children traveled to California or Oregon.

As pioneers spread through the West, a rising tide of immigrants replaced the migrating Easterners, swelling American ranks by 39,000,000 between 1820 and 1950.

The wave still flows west. The 1930 population center was in Indiana. By 1950 it had moved to Illinois. The new States of Alaska and Hawaii pull it 17 miles farther. The 1960 census should move the population center almost to the Mississippi.

A meter in the Department of Commerce Building, Washington, D.C., gives a running account of population changes in the United States. Its conclusion: we gain one person every 11 seconds.

Based on Census Bureau estimates of births (one every 7 1/2 seconds), deaths (one every 20 seconds), immigration (one person every 1 1/2 minutes), and emigration (one person every 20 minutes), the meter will register 180,000,000 persons next April, when census takers will go out to count them to make sure.


World population shows a three-fold increase in 170 years, reflecting the gain of births over deaths. In the same period the U. S. total has multiplied 46 times. Tides of immigrants and a declining death rate have counteracted America's lower birth rate.
870,000,000
3,929,214
WORLD
U. S.
1790
2,900,000,000
180,000,000
WORLD
U. S.
190 Million
180 Million
170 Million
160 Million
150 Million
140 Million
130 Million
1790 to 1830. Early marriages and a high birth rate swell the young Nation's population. Boundless soil averts famines. America's isolated homesteads limit spread of epidemic diseases.
1831 to 1860. Famine in Ireland and unrest in Germany send 3½ million immigrants; other countries contribute 1½ million.
1861 to 1890. High birth rate and increasing immigration vastly offset casualties in the Civil War.
20 Million
10 Million
3,929,214 Americans
1790
1800
1810
1820
1830
1840
1850
1860
1870

JAMES C. SAWDERS

Buenos Aires or elsewhere. Plants turn out motor cars, aircraft, leather goods, textiles, furniture, paper, chocolate, ceramics, and flour.

Susana proudly showed me the National University of Córdoba. It was founded as a Franciscan theological seminary in 1613, making it the second oldest university in the hemisphere. (The oldest is the University of San Marcos in Lima, Peru.) Some 16,000 students like those at right study within Córdoba's colonial halls.

"Anyone with a high school education can attend class without an entrance exam," Susana told me. "But if you fail a course you must pay to take it a second time." Susana is studying social work at the Catholic University of Córdoba.

Learning about the city was interesting; learning about its people was fascinating. The night Susana and I went to a costume party I felt almost like an Argentine. Our dates came to pick us up on motor scooters. Everybody, it seems, rides them, even elderly ladies and women with children strapped to their backs. Córdoba's policemen, below, have their hands full directing the scooters through shopping crowds that jam the downtown streets.

PAN AMERICAN UNION

At the party we ate, sang, and, of course, danced. My Argentine friends prefer the tango and fox trot to rock and roll. Someone brought a guitar and we sang songs, mostly boleros with a couple of popular songs from the States in Spanish. The food was familiar too: pizza, sandwiches, ice cream.

My favorite memory of Argentina is of something I missed. Boys serenaded me outside my window late one night. To the tune of a guitar they sang a bolero called *"Lagrimas de Amor"* ("Tears of Love"). The funny part is I wasn't in my room to get the compliment; Susana's uncle was staying there while I was away. He said later he was tempted to answer for me in a high-pitched voice. But he just smiled—and kept mum.

UMI

KATHRYN MEARA

An American Girl in Argentina

By Kathryn Meara

HAVE YOU EVER traded families for a summer? I did. I not only switched families but countries and languages as well.

With 960 other high school students from all over the United States, I was chosen by the American Field Service to live abroad with another family for two months. Later I found that AFS has been sending teen-agers like myself abroad and sponsoring foreign students' visits to the United States since 1947. But last year was the biggest yet. Among us we lived in 24 countries. Thirty-one students shared the excitement of going to Argentina with me.

My "adopters," the Hector Frontera family, live in a Spanish-style home in Córdoba, a graceful old city in central Argentina. I'd like you to meet them. That's me (above) sitting on the arm of the chair between my new Dad and Mother. Susana, who is 17 like me, sits beside her younger brother, Hector Eduardo, 11.

My "parents" spoke no English so I had to polish up my high school Spanish. Helping Mother around the kitchen, chatting at meals, and meeting Susana's friends did the trick. By the time I left I could speak easily to both parents—and get the salt when I asked for it.

Incidentally, meals with the Fronteras are feasts. Like many Argentines, we had steak almost every day, sometimes twice. At breakfast Mother served a delicious spread I'm trying to duplicate back home in Falls Church, Virginia. It's called *dulce de leche*. It's condensed milk, boiled until it turns tan, then spread like a sweet caramel on toast.

With Susana as my guide, I learned lots about Córdoba, Argentina's third largest city. Its great Gothic cathedral reminds you of its Spanish beginnings. A Spanish colonist founded Córdoba in 1573. He named it for the city of the same name in Spain. Today you find not only ornate architecture but modern commerce and industry. Fruit, vegetables, beef, and grain pour into Córdoba from the pampas to be shipped to

But as a Broadway showman might say, Rameses gave himself better billing than he gave his god. Each of the four colossal figures depicts the Pharaoh. Horus is relegated to a smaller statue over the door.

Around the king's knees stand lesser members of the royal family, both adults and children, carved to a pygmy scale compared to the 30-yard-tall kings, but still bigger than a man. Stone falcons, sacred to Horus, perch on the terrace.

The temple is designed so that the first rays of the rising sun will burst over the hill, pierce a long corridor, and penetrate 180 feet into an inner chamber, lighting another figure of Rameses.

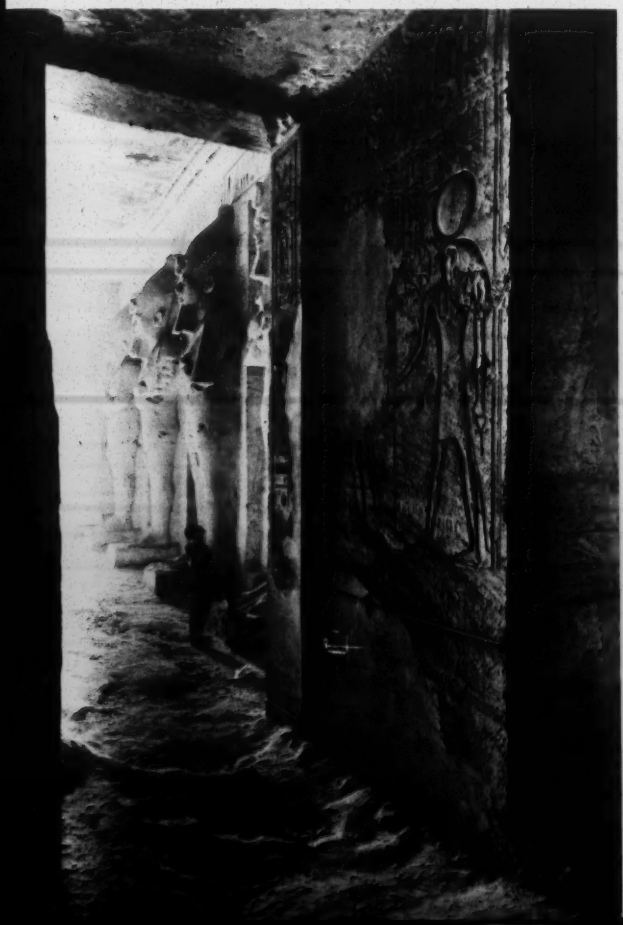
Within, the ceilings and walls are covered with bright paintings and carvings (below). They depict, of course, Rameses in battle, Rameses receiving homage, and Rameses the ruler presenting gifts to himself as a god. The total effect of the temple in the rosy-fingered dawn is so strong that Elsie May Bell Grosvenor, world-traveling wife of the Chairman of the Board of the National Geographic Society, reported it the "most magnificent sight" she had seen in Africa.

Since the temple is cut into solid rock, it seems impossible to move it away from danger.

To build a dam to protect it would cost perhaps $60 million, experts have estimated.

The United Arab Republic, of which Egypt is part, has called for help from other countries in preserving this masterpiece and others that stand in the valley to be flooded.

Even more, Egypt wants help in discovering and excavating other threatened sites, either partially worked or only suspected, before the waters blanket them.



To this end, former restrictions on foreigners wishing to dig for archeological treasure have been lifted, and Egypt promises outside expeditions half of the material they find.

Egypt is also offering five complete temples, to be taken apart and moved to countries that contribute heavily to the work.

The United Nations Educational, Scientific, and Cultural Organization has called for a drive to raise as much as $100,000,000 to preserve the relics.

An Egyptian spokesman pleaded with United States and Russian delegates to "keep the money from a few sputniks to save our antiquities. The money will not go into the skies. It will stay as long as the monuments."

Among other organizations, the Smithsonian Institution has expressed interest in sending an expedition to search the valley for unknown relics. Belgium

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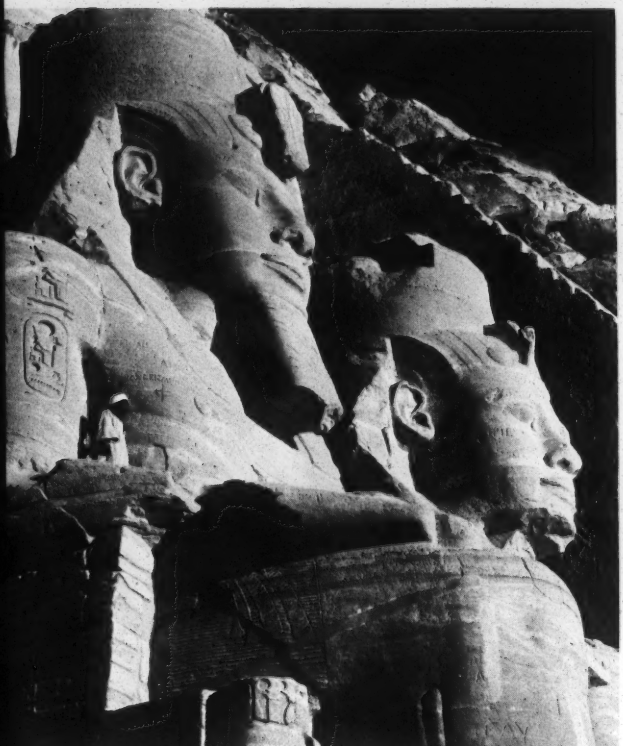
PHOTOGRAPHS BY DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

Stone Giants Face Drowning

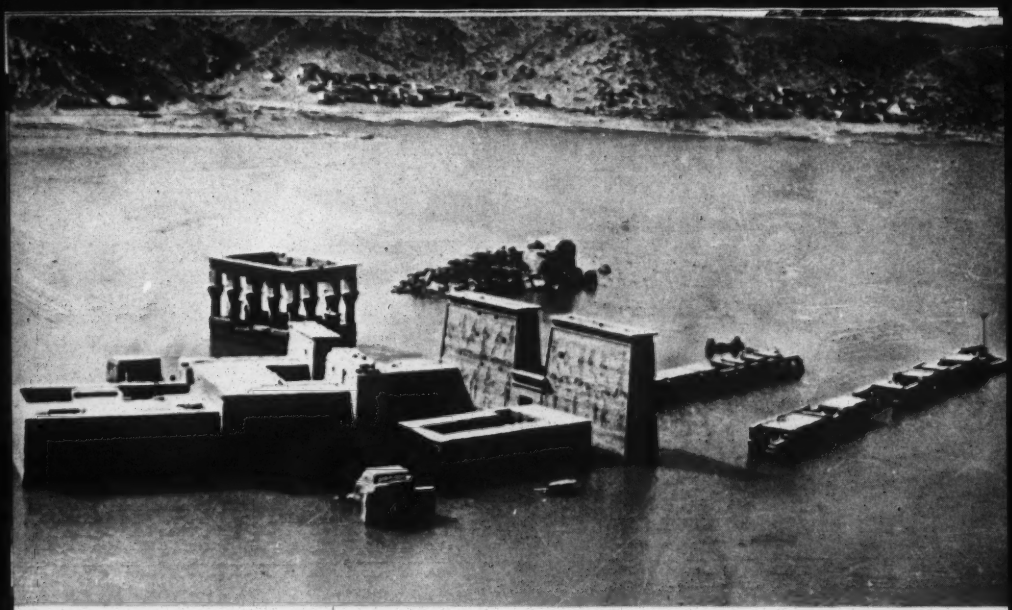


STARING PLACIDLY out across the Nile, four statues of Rameses II (above, and detail left) have withstood the desert sands, the chipping of man, and the weather for more than 3,000 years.

Now they are threatened with destruction, as Egypt seeks to harness more fully the great river that built the high civilization that produced the statues.

Unless a huge dam is built to wall off this famous temple at Abu Simbil, waters from the planned Aswan High Dam will drown these figures—and untold other relics of Egypt's golden age.

Rameses ordered the great temple honoring Horus, the Sun God, carved into the living rock of the cliff face.



HAMILTON WRIGHT

Egypt's present dam at Aswan floods ancient Temple of Isis on the island of Philae

has pledged $20,000 toward the goal.

The antiquities expected to be destroyed by the high dam include the Temple of Isis on the already-drowned island of Philae (above).

Philae is covered by the lake backed up by the low Aswan Dam, built between 1898 and 1902. Usually the temple lies below the surface, but in the summer and fall months, when water is released for irrigation downstream, it emerges, gray and dripping, from its long bath.

The Nile Valley, even with part of it flooded by the high dam, will remain the world's greatest mine of history.

Although archeologists have been digging there for a century and a half, new finds are made among its temples and pyramids almost every year.

It is difficult to realize that these huge buildings are so old that the people we think of as the "ancient Greeks" came here to view them as relics of an already ancient culture.

The land we call Egypt had its real beginning as a home for men some 14,000 years ago. The rains failed on the tableland of north Africa, beginning the drying that was to create the Sahara. Nomadic tribesmen were driven into the narrow Nile Valley as vegetation and game became scarce.

In the valley and delta, they settled down to farming. Ever since, the broad, placid river has been the life of Egypt.

"Egypt," declared the oracle of the god Amūn, "is the land watered by the Nile in its course; and those who dwell below the city Elephantine and drink that river's water are Egyptians."

Over the centuries they developed a culture that dominated the ancient world for more than 3,000 consecutive years, and was in many respects unequalled until modern times. F.S.

Note: Early Egypt, Greece, Rome, and Mesopotamia are treated extensively in the National Geographic book *Everyday Life in Ancient Times*, Washington, D.C., $6. See, also, in the *National Geographic*, "Fresh Treasures from Egypt's Ancient Sands," November, 1955; and "Safari from Congo to Cairo," by Elsie May Bell Grosvenor, December, 1954.

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